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ABSTRACT

This project proposal provides background information and outlines a Contra Costa Community College District (CCCCD) effort to develop: (1) a framework for studying the transfer process and for assessing the success of district colleges in preparing students to transfer; (2) a mechanism for identifying and counseling potential transfer students, determining their transfer rates, and monitoring their progress through the completion of their undergraduate programs; and (3) the district's capacity to generate transfer reports to meet planning, accountability, and accreditation requirements. After discussing project purposes, the proposal reviews efforts to monitor the transfer function at the state level in California and other states; and the legislative and policy context of the transfer project. A discussion of the scope and methodology of the project is followed by descriptions of component activities, including a proposed information exchange between the district and local four-year colleges; intersegmental and district administrative support; pilot studies with the University of California and California State Universities; and development of a transfer framework, including operational definitions of such key terms as potential transfer population, vocational education population, leavers, transfer eligibles, transfer admits, transfers, basic skills population, basic skills potential transfer population, and pre-college population. The final section discusses broad policy questions. (JMC)

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Proposed Transfer Project Between the District and the Four-Year Segments

OFFICE OF DISTRICT RESEARCH

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

March 1991

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STATE OF CALIFORNIA
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Executive Summary

Proposed Transfer Project
Between the District and the Four-Year Segments

Purpose

To develop a framework for studying the transfer process and for assessing the success of District colleges in preparing students to transfer.

To develop a mechanism for identifying and counseling potential transfer students, determining their transfer rates, and monitoring their progress through completion of their undergraduate programs.

To develop the capacity which will enable the District to generate periodic transfer reports to meet planning, accountability, and accreditation requirements.

Background

In 1984, the State Legislature summoned a review of the Master Plan. The California Postsecondary Education Commission (CPEC), the California Round Table, the three public segments of higher education, and various public interest groups all brought attention to the need of the segments to renew their transfer and articulation efforts. It was clear to all concerned that the transfer function, as the cornerstone of the Master Plan, was essential in assuring students equitable access to California's tripartite system of public higher education. The collaborative efforts of these parties helped to secure transfer center funds from the State for the 1985-86FY. Because of this convergence of interests by such a diverse group of stakeholders, 1984 has been called "the year of the transfer function" (CPEC, 1985). This then was the context which helped to shape the legislative review of the Master Plan and which led to the 1987 report by the Commission for the Review of the Master Plan for Higher Education and the 1989 Joint Committee for Review of the Master Plan for Higher Education. These reports reaffirmed the key role which the California Community College system plays in higher education and reestablished the transfer function as one of its top priorities--a goal from which the system was reported to have strayed. It became the basis for the Assembly Bill 1725, **The Community College Reform Act**. Numerous strategies have been or are being developed by the State Legislature, CPEC, the Intersegmental Coordinating Council (ICC), and the public segments of higher education to renew their transfer and articulation efforts. This undertaking is imperative given recent changes in the admissions policies and tuition fees of the four-year segments which stand to substantially increase the number of students in the community colleges who will require transfer course work and services.

Efforts to Monitor the Transfer Function

Through various bills, the State is requiring the segments of higher education to monitor better their transfer efforts and related articulation activities. These requirements necessitate the development of more valid measures than have heretofore been used to gauge the "potential transfer pool" of the community colleges and their "transfer rates." How these measures will be created is not entirely clear as there are many conceptual problems which need to be addressed before making this assessment.

Past efforts to operationalize "transfer rates" have proven unsatisfactory. Researchers in this area have disagreed about the specifications of the numerator and denominator in transfer rate formulas. These differences have existed not only in California but other states as well.

Questionable criteria have been used to measure the transfer rate, and these have made for strikingly low rates. These reportedly low rates have been interpreted by legislators to mean that the community colleges were not fulfilling one of their primary missions, namely the transfer function. In their defense, the community colleges have argued that said rates are not valid or fair because the denominator used was not appropriate. Specifically, it contained many students who were not potential transfers: they either had no interest in transferring or did not have the academic qualifications to do so. Thus the community colleges should not have been held accountable for their transfer status.

Policy Context

One reason why there have been problems in defining the transfer rate is the absence of any statement by appropriate officials which explicitly states the questions which the segments need to answer about transfer students. Broad policy statements have been made but related specific operational terms have yet to be provided. Such a statement should identify the actual students which the segments have a responsibility to help transfer and the type of information and evaluations needed for policy-making purposes. In the absence of such a statement, one can only guess which students should constitute the "potential transfer pool" and the dimensions along which to measure their progress. Presumably officials will want to know how many students the community colleges helped to make transfer eligible of all those students in a given potential transfer pool who: (1) expressed an interest in transferring, (2) who had the aptitude, (3) who enrolled in appropriate course work, (4) who performed at the required level, (5) who became transfer eligible, and (6) who actually transferred.

It needs to be stated here that the transfer focus of the proposed study should not be taken to mean that the other missions of the community colleges are not of interest or important. Rather, it should be seen as an investigation to gauge and define one of the missions of the community colleges. This study limits itself to the transfer function and related articulation activities because information is currently needed to respond to the accountability requirements of AB 1725 and AB 3 (The Matriculation Act). Future studies will involve other missions of the District.

In short, a framework is needed for studying the transfer function and related articulation activities. Such a framework should help interrelate transfer curricula with segment requirements and with student characteristics and student services. For this framework to have validity, it will have to be developed with the participation of all stakeholders: those within the District, those in four-year institutions, and those representing state offices. When complete, it should help guide the development of mechanisms which will monitor student progress through the undergraduate years. At the very least, this framework should help the segments to operationalize basic transfer concepts (e.g., "potential transfer pool, transfer rate, transfer effectiveness, transfer progress, and transfer efficiency") and relate these to transfer policy concerns. This proposal seeks to develop such a framework and its related mechanisms through a series of pilot studies.

Scope and Methodology

This proposal seeks to evaluate several policy questions and their corollaries about the transfer and articulation function, including:

1. What is the transfer trend for the District over the last decade?

2. How well have District transfers achieved in the four-year segments?

3. What are the transfer and articulation agreements between the District and the four-year segments, and how useful do faculty, counselors, and students perceive them? How well coordinated are the instructional programs and student services which relate to these agreements?

4. How should the "potential transfer pool" of the District be defined? How should the District gauge the success of its efforts to make these students transfer eligible?

This project has three priorities: (1) to establish an information exchange program between the District and the four-year segments, (2) to develop a framework for studying the transfer function and for developing valid accountability measures, and (3) to develop a pilot study which will help to enhance the articulation agreements between the District and the four-year segments, and to measure better the impact of student services on the transfer process. Recent discussions with the University and northern California CSU campuses reveal that these segments are interested in collaborating in this undertaking.

Proposed Information Exchange Between the District and the Four-Year Segments

The information exchange program will have two components. The first involves the development of a data retrieval mechanism which will help the District to identify its transfers to the University, CSU, and other four-year institutions between 1982-90 and to profile their undergraduate performance. The second involves the development of a student tracking system which will provide the District with the names of its transfers every semester and with annual performance data on these students through their baccalaureate degree.

As the informational exchange program between the District and the four-year segments is established, various questions will be evaluated, as appropriate and to the extent possible, including:

1. How many District students have applied, been admitted and enrolled in the University, CSU, and other four-year institutions? What are their characteristics? (Currently the University can identify District students who transferred and enrolled since 1982 and the students who applied, were admitted, and enrolled since 1989.)

2. How have transfer trends varied over time for students departing to specific segments and majors? How do these trends relate to District enrollment trends and course-taking patterns?

3. How well have District transfers persisted, performed, and at what rates have they graduated? How do these rates vary by segment/campus, major, and type of financial aid award given? What is the time-to-degree for District students? What reasons do students give for completing or discontinuing their studies?

The proposed information exchange between the District and the four-year segments will help in the evaluation of the foregoing questions. To the extent possible, appropriate surveys will be conducted to help evaluate those questions which require student feedback.

Intersegmental and District Administrative Support

As mentioned, a framework is needed to interrelate transfer curricula, segment requirements, student services, and student characteristics. To assure its validity, this framework should be developed by a task force of appropriate representatives of the District. Additionally, input should be obtained from external stakeholders: the four-year segments, California Postsecondary Education Commission (CPEC), Intersegmental Coordinating Council (ICC), and other concerned parties.

Pilot Studies With the University and CSU

As potential transfers are identified, the services of District Information Systems, Office of District Research, and campus student programs/services will be configured to support articulation activities and the transfer process.

District Information Systems will be able to provide data on the course-taking patterns of these potential transfers. Specifically, it can identify whether the courses being taken are transferable to UC or CSU, are required by some vocational/certificate program, or are applied to the AA degree. This pool would, of course, include those who were eligible upon graduation from high school and those who were not. As necessary, the District Office or appropriate college personnel can arrange for University representatives to interview these students. The University is expected to participate in (1) the identification of potential transfers; (2) the evaluation of transcripts and transferable course work; (3) the determination of transfer requirements for specific campuses and majors; and (4) the clarification of admissions procedures and the process by which transfers compete for available student services (e.g., financial aid, housing). Conceivably these activities will help to enhance our articulation and transfer programs.

Students in the "transfer pool" and those who have transferred will be surveyed periodically by the Office of District Research to gauge their opinions, attitudes, and perceptions about those factors which supported or impeded their educational progress. Appropriate District administrators, faculty, and student service officers will also be surveyed to obtain related contextual information. At these times, the University will have the opportunity to "piggyback" on these surveys and ask their own questions.

Through these activities, then, this project expects to (1) profile successful transfers; (2) provide feedback to faculty and staff of student support services; (3) better gauge the potential "transfer pool"; (4) better measure the District's success in preparing students to transfer; and (5) fine tune the predictive and differential validity of students' test scores and grades to their persistence and performance at the University.

The following are some of the questions which will be addressed through this inquiry:

1. Do the characteristics of our transfer students have any implications for defining our "transfer pool?" How do we define the District's "transfer pool" and identify potential transfers early in their academic careers so that we can provide the necessary instructional/support services to help them achieve transfer eligibility and to actually transfer? What formulas or criteria should be used to measure their transfer rate? What are the policy and practical implications of the different approaches which might be used? Does one approach appear to have more benefits and less liabilities for counting community college transfers?

2. How useful do students perceive instructional programs/student services, and the outreach/admissions services of the four-year segments with respect to helping them achieve transfer eligibility and helping them compete academically at the institutions to which they have transferred? What factors do these students perceive as supporting or undermining their efforts to achieve transfer eligibility?

3. Are there any District or inter-institutional policies and practices which needlessly complicate the transfer preparation process?

4. For a given entering class, how many students express an interest in transferring, show the aptitude for realizing this objective, enroll in transferable courses and perform at a required level which, if continued, will bring them to be transfer eligible by a given time?

Transfer Framework

Past efforts to gauge the transfer function have been flawed--the formulas developed thus far have not satisfactorily related to the student population which policy makers have traditionally had in mind when discussing the transfer function, and these less than perfect formulas have helped to bring about unfair criticism of the community colleges. As stated, these flawed efforts reflect the lack of an explicit statement by State officials about their population of interest: one that identifies the particular student group they have in mind when discussing the "transfer rate" or the "potential transfer pool."

In the absence of such a statement from officials, those to be held accountable can only conjecture about the makeup of the student population with which educators need to be working for transfer and accounting purposes. From legislative bills, related hearings, conferences, and research, it appears, at the very least, that State officials and segment administrators have three policy related questions which they would like to see evaluated on a regular basis:

1. What proportion of students who **leave** the community colleges go on to four-year institutions?

2. From **the pool of students** who have an interest in transferring, who have the aptitude to do so, and who take the appropriate course work, what proportion become transfer eligible, are admitted to a four-year segment and actually transfer?

3. How many students who initially take basic skills and pre-college classes move into college course work and subsequently transfer?

In answering these questions, it will be assumed that the primary transfer responsibility of the community colleges is to help students having the appropriate interests, aptitude, and commitment to become **transfer eligible**--not to guarantee their admission and enrollment into a four-year institution.

As is known, the majority of factors which determine an eligible student's admission and enrollment into the four-year segments are those over which the community colleges have no control. These include the restrictions placed by the four-year segments on campus enrollment, the number of openings in a student's major program, available housing and financial aid, and competing family commitments. Accordingly, the community colleges should be viewed as having met their Master Plan transfer responsibilities to the extent that they provide potential transfer students the appropriate course work and support services which will allow them to achieve **transfer eligibility status**. The success of the community colleges in meeting their Master Plan responsibilities should not, as is currently the practice, be measured solely by the number of students who enroll in a four-year segment.

For these reasons, the success of the District in meeting its student transfer responsibilities will be measured primarily by the number of students from the District's potential transfer population who actually become transfer eligible. In order to have a full accounting, the District will also measure the number of eligible students who are admitted to a four-year segment, and the number of these admits who actually enroll. This proposal details how these and other measures will be developed to evaluate the foregoing policy questions.

It is argued that the equations proposed here address the concerns of legislators, educators, and the tax-paying public. That is, they allow all stakeholders to know whether or not the community colleges are assisting and preparing potential transfer students for successful admission to four-year institutions, whether this preparation is being done at an acceptable level, and whether transfer support is being provided in the most efficient manner. Additionally, these criteria can provide policy-relevant transfer rate data in a way that is not inappropriately influenced by the other purposes of the community colleges.

In summary, the overarching goal of this project will be (1) to profile the transfer and articulation context, (2) to present the salient features of the State/segment/District/college nexus which spotlights the transfer and articulation functions, and (3) to outline the initial steps towards understanding in richer terms how these functions play out within the District, with an aim toward developing a framework for monitoring these functions and relating them to transfer policy concerns.

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Background

The recent review of the California Master Plan of Higher Education clarified and reaffirmed that the two overriding goals of the community colleges were transfer and vocational education. This renewed emphasis on the transfer function between the community colleges and the four-year public segments of higher education stems from legislative concerns originating in the 1970's. Some of these are:

1. That the community colleges were neglecting their primary mission to provide transfer and vocational education in favor of "personal development" and "continuing education" courses contrary to the 1960 California Master Plan for Higher Education (CPEC, 1990; Knoell, 1990; Gerth, 1984);

2. That the quality of their transfer curricula and related support services had been diluted and no longer ensured transferability (CPEC, 1990; Knoell, 1990; Gerth, 1984);

3. That students who had successfully completed their transfer programs were finding it increasingly difficult to secure access to the programs of choice at public four-year institutions, in part because course work acceptance varied across the campuses of the University of California (UC) and the California State University (CSU) system (CPEC, 1990; Knoell, 1990);

4. That the number of students in general and minority students in particular who transferred to four-year institutions was alarmingly small given that the community colleges serve the largest and the most diverse group of students; and

5. That many of these concerns could be addressed by renewing transfer and articulation efforts between the segments.

As the growth of state revenues began to slow in the late 1970's and 1980's, there was an increase (1) in competition for scarce resources among a growing number of interest groups; (2) in the public's demand for more efficient state services; and (3) in the taxpayers insistence that State agencies be held accountable. Relatedly, the State Legislature came to call more frequently for intersegmental solutions to educational problems and to require more stringent evaluation procedures.

In 1984, the State Legislature summoned a review of the Master Plan. The California Postsecondary Education Commission (CPEC), the California Round Table, the three public segments of higher education, and various public interest groups all brought attention to the need for the segments to renew their transfer and articulation efforts. It was clear to all concerned that the transfer function, as the cornerstone of the Master Plan, was essential in assuring students equitable access to California's tripartite system of public higher education. The collaborative efforts of these parties helped to secure transfer center funds from the State for the 1985-86FY. Because of this convergence of interests by such a diverse group of stakeholders, 1984 has been called "the year of the transfer function" (CPEC, 1985). This then was the context which helped to shape the legislative review of the Master Plan and which led to the 1987 report by the Commission for the Review of the Master Plan for Higher Education and the 1989 Joint Committee for Review of the Master Plan for Higher Education. These reports reaffirmed the key role which the California Community College system plays in higher education and reestablished the transfer function as one of its top priorities--a goal from which the system was reported to have strayed. It became the basis for the Assembly Bill 1725, **The Community College Reform Act.**

Efforts to Monitor the Transfer Function

Numerous strategies have been or are being developed by the State Legislature, CPEC, the Intersegmental Coordinating Council (ICC), and the public segments of higher education to renew their transfer and articulation efforts. This undertaking is imperative given recent changes in the admissions policies and tuition fees of the four-year segments which stand to substantially increase the number of students in the community colleges who will require transfer course work and services. Accordingly, the State Legislature, having passed AB 1725, is developing more bills to further implement the Master Plan's transfer recommendations (i.e., Senate Bill 121).

Various State agencies and public interest groups have moved to hold UC and CSU accountable for establishing a 40 to 60 percent split between their lower and upper division students as called for by the 1960 Master Plan and to require that community college transfers be given the highest priority in the admissions process. CPEC and ICC are also moving to standardize UC and CSU transfer requirements. The State has funded numerous projects and the segments have developed many on their own without State support -- all aimed at strengthening the transfer function. (For a more detailed accounting of these programs see CPEC, 1990 and Knoell, 1990.) With these activities, the responsibility for upgrading the transfer function has shifted from a particular segment or program to intersegmental bodies. It is hoped that this change will bring a richer policy perspective and increase the likelihood that substantial progress will be made in this area.

Through various bills, the State is requiring the segments of higher education to monitor better their transfer efforts and related articulation activities. These requirements necessitate the development of more valid measures than have heretofore been used to gauge the "potential transfer pool" of the community colleges and their "transfer rates." How these measures will be created is not entirely clear as there are many conceptual problems which need to be addressed before making this assessment.

Past efforts to operationalize "transfer rates" have proven unsatisfactory. Researchers in this area have disagreed about the specifications of the numerator and denominator in transfer rate formulas. These differences have existed not only in California but other states as well. (See Cohen, 1990 and Knoell, 1990). Berman and Weiler (1990) report that transfer rates (TR) initially were measured by dividing the number of students who transferred (T) to the University of California (UC) and the California State University (CSU) system in a given year by the total number of students enrolled (E) for the same period of time (TR=T/E). This definition results in an artificial and insignificantly small transfer rates. Specifically, the denominator of this equation reflects the diverse and dynamic population of students which the community colleges serve (currently about 1.4 million). When we divide the relatively small number of transfer students by this large term, an insignificant transfer rate is obtained. Over the years, rates determined by this and similar criteria have been as low as 5% (CPEC, 1990).

These reportedly low rates have been interpreted by legislators to mean that the community colleges are not fulfilling one of their primary missions, namely, the transfer function. In their defense, the community colleges have argued that rates so determined were not valid or fair because the denominator used was not appropriate. Specifically, it contained many students who were not potential transfers: they either had no interest in transferring or did not have the academic qualifications to do so. Thus the community colleges should not have been held accountable for their transfer status.

This non-transfer population includes those who are enrolled in vocational/certificate education programs; who are there for personal enrichment purposes; who already have BA's but in need of upgrading their employment skills; who are enrolled because they would like to upgrade their basic English and math skills; who are high school students concurrently enrolled in a community college course; who are concurrently enrolled in a four-year institution but who take transferable courses at a community college which are provided at a more convenient time (usually in the summer) and at relatively lesser costs; who are highly mobile and often leave before realizing their educational objectives; and who have the aptitude and qualifications to transfer but not the interest to do so.

Unlike their counterparts in the four-year institutions, community college students do not pursue their educational objective by completing a similar number of courses each semester until they reach their goal. Rather they tend to vary the number of units they complete each semester, are apt to "stop out" for a semester or two, and likely to continue this pattern of attendance until they either reach their educational objective (which tends to be changed several times) or decide on a new goal which takes them elsewhere. As is known, over the last decade, the size, diversity, and mobility of the non-transfer student population and the number of students who have a low transfer potential has increased. Thus, the inclusion of these students in the "E" term of the TR equation artificially inflates the denominator and makes for a small and decreasing transfer rate.

McIntyre (1984) attempted to improve on this earlier method by changing the specification of the denominator (E) in the TR = T/E formula. Specifically, he proposed that researchers divide "the number of transfers to UC and CSU by the number of California high school graduates who entered community colleges three years prior to transfer." This investigator made this proposal because of a few research reports which suggests that community college students take about

three years to transfer to four-year institutions. This tactic attempts to relate the TR for a given semester/year to a particular entering class. It reduces by an unknown amount the number of students in the denominator which should not be included in transfer rate analysis. However, this change does not make this new specification any more valid than the previous one. It still includes a wide range of students with different reasons for attending the community colleges, and therefore has the same problems as the earlier component.

Cohen (1990) has proposed that the TR=T/E formula be improved by changing the populations in the numerator and denominator. He recommends that the transfer rate be defined as "all students entering in a given year who have no prior college experience, who complete at least twelve college-credit units at the college, and who take one or more classes within four years at a four-year institution divided by all students with no previous college experience, and who completed at least 12 college-credit units at the college." Since this definition does not take into consideration the educational objective of students or their intent to transfer, it is vulnerable to the same criticism as earlier formulas. As Knoell (1990) has noted, this proposal does not appear to be suited for higher education in California for several reasons: (1) Students who are and are not preparing to transfer often take the same courses and programs. Those who complete twelve degree-credit units do so for many reasons other than to transfer. (2) The majority of students who are preparing to transfer are required to complete at least 54 semester units of college credit before they will be considered for admission with advance standing at a four-year institution. The upshot of Cohen's formula is that its terms contain the various non-transfer subgroups stated earlier and thus yields a questionable TR measure.

Berman et al. (1990) proposed still another definition for determining TR for community college students. Specifically, they defined TR as the number of students who transfer (T) in the fall or spring divided by the number of "leavers" (L), the number of students who leave in the spring and do not re-enroll in the subsequent fall semester. It should be noted that "leavers" in this formula exclude students who have taken less than six units, have BA's, and those concurrently enrolled or on leave from a four-year institution. There are several problems with this notion that TR=T/L. Students who transferred in the fall will not be in the denominator and students who leave in the spring and subsequently enroll in a four-year institution the following spring will not be in the numerator. Additionally, students who leave in the spring may also return in the following spring.

Berman and his associates do not give a rationale as to why they limit themselves to those who leave in the spring and transfer in the fall. Logically, one could argue that those who leave in the fall and transfer in the spring are of equal interest, and one could argue that the number who leave in the fall should also be included in the denominator to determine the fall/spring transfer rates. Why not base a transfer rate on the whole year and give the community colleges full credit for their efforts? As was true of the earlier methods, the denominator of the Berman formula includes many student subgroups who are not interested in transferring or qualified to do so in addition to the potential transfer subgroup. This inflated denominator can only give us a "transfer rate" which is relatively smaller than what would be obtained if a more exact and policy relevant term were used.

Formulas like that posed by Berman and his colleagues also contain numerators which may include students who took a minimum of courses at a community college (six units) or who

transferred and dropped out in their first semester at a four-year institution. How much credit should a community college take for transfers who spent a minimum amount of time on its campus or alternately how many units should these students complete before a District college can take credit for their preparation? Is it meaningful to call a graduate who drops out almost immediately from a four-year institution a "transfer student"? How do we include into our formula students who are eligible to transfer but do not do so for some time after leaving a community college? How will we account for students who transfer but about whom we have no way of knowing that they did so? These and other points, of course, need to be considered so that we can develop valid measures of our transfer trends and/or gauge the contribution of the community colleges to the transfer education of California students. These measures should reflect the relative roles of the segments in relation to the transfer function, specifically, that it is the responsibility of the community colleges to help students with the aptitude and interest to become transfer eligible and that it is the responsibility of the four-year segments to recruit such students. It is not the responsibility of the community colleges to do it all: to help students to become eligible, to assure their enrollment in a four-year institution, and to make certain that they attain their Bachelor's degree.

Berman and his team developed their TR=T/L formula to address what they took to be a meaningful question: What percent of students leaving the community colleges transfer to four-year institutions? But is this **the** question which needs to be answered? Don't we really want to know the number of students who wanted to transfer, who had the qualifications to transfer, who worked to make themselves transfer eligible, who became transfer eligible to their targeted four-year institution/major, and who actually transferred? Do we want to look at "leavers," "graduates" or "transfers" from our community colleges independently of their educational objectives and achievements? Relatedly, as the Berman group itself notes, the TR measure does not take into consideration the context and efforts of a college. If used for performance evaluation, it could unfairly put a college which stresses vocational/technical education at a political disadvantage because TR tends to be low for these colleges.

Berman et al. introduced the concept of **"transfer effectiveness"** (TE) which addresses some of these foregoing concerns. They note that "leavers" (L) can be sorted into four student subgroups: **Type 1**: students who express that their intent to transfer is an important reason for them enrolling and who end up transferring; **Type 2**: students who express that their intent to transfer is an important reason for them enrolling and who end up not transferring; **Type 3**: students who express that transferring is not an important reason for them enrolling, but who end up transferring; **Type 4**: students who express that transferring is not an important reason for them enrolling and who do not transfer. Each of these types of **leavers** are then combined to yield the formula **TE = (Type 1+Type 3/Type 1+Type 2)X100**. It should be noted that the Berman group view these concepts as exploratory and needing further development.

This definition appears to address transfer policy concerns more directly and fully than previous equations. It does not penalize a community college that emphasizes vocational education and that provides a substantial number of personal development and basic skills courses. However, the TE formula needs to be further developed. Its denominator (the number of students who **expressed** that transferring was important) assumes the validity of a student's self-assessment.

Numerous researchers have found that there is a wide discrepancy between a student's declared intentions to transfer and what the student actually does (cf. Adelman, 1990) Simply because a student states that preparation for transfer is an important reason for attending a community college, therefore, does not make the student a potential transfer candidate. It does not make sense to call a student who expresses an intention to transfer a potential transfer candidate if he/she does not take appropriate course work and does not perform at a level which will bring them transfer eligibility to their targeted four-year institution and major.

Alternately, a Type 3 student who initially reports that preparation for transfer is not an important reason for attending a community college may still be a potential transfer candidate because of his/her qualifications, career interests, and course-taking patterns. An in-depth interview with such a student may lead to a reconsideration. Should they ever transfer, they will be included in the numerator but not the denominator of the Berman TE formula. This could result in obtaining a transfer effectiveness rate which exceeds 100%: a possibility which should not be possible given the nature of rates and proportions. Additional research is needed to determine the degree to which the term for Type 3 students reflects invalid procedures for assessing "student intent" or the reality that students change their goals over time. Regardless of whether a student initially expresses an interest to transfer or not, his/her aptitude, motivation, and performance needs to be properly assessed before we can consider him/her to be a potential transfer candidate. This determination requires well-developed functions of advising, assessment, and counseling centers.

Part of the number of "transfers and leavers" being counted will vary with the time frame used for analysis. Depending on their size and their origin, cohort groups that enter at different years will differentially contribute to the number of Type 1, 2, and 3 transfer students who leave in a given semester/year and relatedly to the TE rate. Those entering classes, close in time, which have a relatively high number of "potential transfer students" will yield a greater number of transfers at various points in the future than those entering classes which have relatively fewer number of such students. Thus, a yield of one hundred transfers in a given semester may result in a larger or smaller TE rate than the same number for another semester because the TE denominator will very likely have changed between these semesters. These different denominators are of course influenced by the characteristics of past entering classes.

Given that TE varies across time for the same number of transfers, one may conclude that a college has been more or less "effective." This, however, will not be a valid assumption. This outcome is likely to happen even though a college has made the same effort and provided the same quality of services across the time period involved. The notion of "effectiveness" implicit in the TE measure would be questionable in such cases. In short, the variation in TE for a given college may reflect more the characteristics of past entering classes and less the variation or effectiveness of a college's transfer effort. For this reason, it is important to relate TE to a particular entering class. Other things being equal, referencing the TE denominator to a particular entering class stabilizes it. Also, this referencing allows for a fairer and more accurate measure of how well a college helps students in a given "potential transfer pool" to reach their targeted four-year institution, and the value and meaning of a TE denominator so referenced reflects more of those factors of which a college is in control than the original version.

Researchers in this area have differed with respect to whether they look at the transfer rates of a given entering class or a given semester. There are advantages in referencing the transfer measure to a particular cohort group or incoming class. As noted, this tactic stabilizes the TE denominator and permits a relatively more valid assessment of transfer effectiveness. Additionally, it allows one to determine other dimensions of interest, including the average amount of time it takes for students to transfer (**"transfer efficiency"**) or the **rate** at which students are progressing toward realizing their transfer potential (**"transfer progress"**). Alternatives to the formulas presented thus far will be provided in the methods section.

Policy Context

One reason why there have been problems in defining the transfer rate is the absence of any statement by appropriate officials which explicitly states the questions which the segments need to answer about transfer students. Broad policy statements have been made but related specific operational terms have yet to be provided. Such a statement should identify the actual students which the segments have a responsibility to help transfer and the type of information and evaluations needed for policy-making purposes. In the absence of such a statement, one can only guess which students should constitute the "potential transfer pool" and the dimensions along which to measure their progress. Presumably officials will want to know how many students the community colleges helped to make transfer eligible of all those students in a **given** potential transfer pool who: (1) expressed an interest in transferring, (2) who had the aptitude, (3) who enrolled in appropriate course work, (4) who performed at the required level, (5) who became transfer eligible, and (6) who actually transferred.

With the current emphasis by the State on the transfer and articulation functions, the other missions of the community colleges are getting little attention or being overlooked. This focus has helped to bring back to the fore the perception that the community colleges are an extension of the K-12 system, specifically, that they provide grades 13th and 14th. It is curious that this perspective is taken rather than seeing the community colleges as what they are, namely, institutions which provide college level course work and community services to a diverse student population. The view that the community colleges are an extension of the high schools tends to be a disparaging one. Additionally, the accent on the transfer function appears to have brought about an evaluation perspective which judges the community colleges solely on the basis of their transfer success.

It needs to be stated here that the transfer focus of the proposed study should not be taken to mean that the other missions of the community colleges are not of interest or important. Rather, it should be seen as an investigation to gauge and define **one** of the missions of the community colleges. This study limits itself to the transfer function and related articulation activities because information is currently needed to respond to the accountability requirements of AB 1725 and AB 3 (The Matriculation Act). Future studies will involve other missions of the District.

In short, a framework is needed for studying the transfer function and related articulation activities. Such a framework should help interrelate transfer curricula with segment requirements and with student characteristics and student services. For this framework to have validity, it will have to be developed with the participation of all stakeholders: those within the District, those in four-year institutions, and those representing state offices. When complete, it

should help guide the development of mechanisms which will monitor student progress through the undergraduate years. At the very least, this framework should help the segments to operationalize basic transfer concepts (e.g., "potential transfer pool, transfer rate, transfer effectiveness, transfer progress, and transfer efficiency") and relate these to transfer policy concerns. This proposal seeks to develop such a framework and its related mechanisms through a series of pilot studies.

Scope and Methodology

This proposal seeks to evaluate several broad policy questions and their corollaries concerning the transfer and articulation function. These include:

1. What is the transfer trend for the District over the last decade?

2. How well have District transfers achieved in the four-year segments?

3. What are the transfer and articulation agreements between the District and the four-year segments, and how useful do faculty, counselors, and students perceive them? How well coordinated are the instructional programs and student services which relate to these agreements?

4. How should the "potential transfer pool" of the District be defined? How should the District gauge the success of its efforts to make these students transfer eligible?

This project has three priorities: (1) to establish an information exchange program between the District and the four-year segments, (2) to develop a framework for studying the transfer function and for developing valid accountability measures, and (3) to develop a pilot study which will help to enhance the articulation agreements between the District and the four-year segments, and to measure better the impact of student services on the transfer process. Recent discussions with the University and northern California CSU campuses reveal that these segments are interested in collaborating in this undertaking.

Proposed Information Exchange Between the District and the Four-Year Segments

The information exchange program will have two components. The first involves the development of a data retrieval mechanism which will help the District to identify its transfers to the University, CSU, and other four-year institutions between 1982-90 and to profile their undergraduate performance. The second involves the development of a student tracking system which will provide the District with the names of its transfers every semester and with annual performance data on these students through their baccalaureate degree.

Initial discussions with the systemwide office of the University of California and select CSU campuses reveals that these segments are interested in addressing similar questions as those which guide this project and have helped to establish an informational exchange program. Six CSU campuses are targeted for this study: Chico State, Hayward, Sacramento, San Francisco State, San Jose, and Sonoma. A list of private postsecondary institutions which enroll transfers from the District will be obtained from CPEC, and these colleges or universities will be invited to participate in this study.

The District will be providing a magnetic tape with the names, birth dates, social security numbers, and attendance dates of its students who were enrolled 1975-90 to the University and participating CSU campuses so that past transfers can be matched and identified. In the future, a similar tape will be provided at the end of each semester so that new transfers can be identified.

To the extent possible, additional informational items on this population will be retrieved from the University's **Undergraduate Student Database** and CSU's campus information systems. (With the latter segment, it is necessary to work with campuses rather than the corporate office because information needed is not easily retrievable or available through the systemwide student information system.) These include date of entry, admit status, grade level at entry, current enrollment status, gender, ethnicity, disable status, major, entering afgpa, number of transferable units, eligibility status, EOP/AA Participation Code, test score information, source college, high school of graduation, family income, and financial aid status. (See Addendum A for example of elements which can be retrieved from the University.)

As the informational exchange program between the District and the four-year segments is established, various questions will be evaluated, as appropriate and to the extent possible, including:

1. How many District students have applied, been admitted and enrolled in the University, CSU, and other four-year institutions? What are their characteristics? (Currently the University can identify District students who transferred and enrolled since 1982 and the students who applied, were admitted, and enrolled since 1989.)

2. What proportion of transfers leave in the fall, spring, or summer?

3. How have transfer trends varied over time for students departing to specific segments and majors? How do these trends relate to District enrollment trends and course-taking patterns?

4. How many District students who were eligible and who applied, did not get admitted, and why?

5. How many students who were admitted did not enroll?

6. How many students were admitted and "charged back" to their high schools rather than the District?

7. At what point in their academic career do students transfer?

8. How well have our transfers persisted, performed, and at what rates have they graduated? How do these rates vary by segment/campus, major, and type of financial aid award given? What is the time-to-degree for our students? What reasons do students give for completing or discontinuing their studies?

9. How well do these students believe the District helped them to prepare for the University? What recommendations do they make for improving the transfer and articulation function?

10. Of those students who transferred, how many took mostly vocational or certificate program related courses which were not designed to be transferable?

11. How many students were concurrently enrolled?

The proposed information exchange between the District and the four-year segments will help in the evaluation of the foregoing questions. To the extent possible, appropriate surveys will be conducted to help evaluate those questions which require student feedback.

Intersegmental and District Administrative Support

As mentioned, a framework is needed to interrelate transfer curricula, segment requirements, student services, and student characteristics. To assure its validity, this framework should be developed by a task force of appropriate representatives of the District. Additionally, input should be obtained from external stakeholders: the four-year segments, California Postsecondary Education Commission (CPEC), Intersegmental Coordinating Council (ICC), and other concerned parties.

Conceivably, representatives of this task force will come to some agreement about the definition of key transfer and articulation terms, the formulas and procedures for measuring these, and the support system for monitoring this process. These activities would involve the examination of transfer curricula, related student services, administrative practices, and segment transfer requirements. The District Management Information Systems has the capacity to track students through all matriculation components and to monitor their progress along numerous dimensions, including those related to retention, persistence, performance, and completion of educational objectives. As the interplay between these components is studied, undoubtedly there will be recommendations as to how matriculation components may be made more efficient and better support the transfer efforts of students. The outcome of this investigation will be instrumental in helping to define the transfer centers of the colleges, and for understanding how articulation and transfer functions are played out within the District.

This task force should certainly examine such things as whether or not there are sufficient course sections for students to take to become transfer eligible in the shortest time possible; whether appropriate student services are available at convenient times; whether transfer requirements are presented to students by the District and the segments; the effectiveness of segment outreach services; how well the segments honor the transfer contracts which they make with students; and whether sufficient information about the admissions process, financial aid, and housing is provided by the segments. Also, the task force will want to know how well District transfers do in four-year segments and what recommendations these students would make about our transfer curricula and related student services.

Pilot Studies With the University and CSU

As potential transfers are identified, the services of the District Information Systems, Office of District Research, and campus student programs/services will be configured to support articulation activities and the transfer process.

District Information Systems will be able to provide the data on the course-taking patterns of these potential transfers. Specifically, it can identify whether the courses being taken are transferable to UC or CSU, are required by some vocational/certificate program, or are applied to the AA degree. This pool would, of course, include those who were eligible upon graduation from high school and those who were not. As necessary, the District Office or appropriate college personnel can arrange for University representatives to interview these students. The University is expected to participate in (1) the identification of potential transfers; (2) the evaluation of transcripts and transferable course work; (3) the determination of transfer requirements for specific campuses and majors; and (4) the clarification of admissions procedures and the process by which transfers compete for available student services (e.g., financial aid, housing). Conceivably these activities will help to enhance our articulation and transfer programs.

Students in the "transfer pool" and those who have transferred will be surveyed periodically by the Office of District Research to gauge their opinions, attitudes, and perceptions about those factors which supported or impeded their educational progress. Appropriate administrators, faculty, and student service officers will also be surveyed to obtain related contextual information. At these times, the University and participating CSU campuses will have the opportunity to "piggyback" on these surveys and ask their own questions.

Through these activities, then, this project expects to (1) profile successful transfers; (2) provide feedback to faculty and staff of student support services; (3) better gauge the potential "transfer pool"; (4) better measure the District's success in preparing students to transfer; and (5) fine tune the predictive and differential validity of students' test scores and grades to their persistence and performance at the University or participating CSU campuses.

The following questions will be addressed through this inquiry:

1. Do the characteristics of our transfer students have any implications for defining our "transfer pool?" How do we define the District's "transfer pool" and identify potential transfers early in their academic careers so that we can provide the necessary instructional/support services to help them achieve transfer eligibility and to actually transfer? What formulas or criteria should be used to measure their transfer rate? What are the policy and practical implications of the different approaches which might be used? Does one approach appear to have more benefits and less liabilities for counting community college transfers?

2. How useful do students perceive instructional programs/student services, and outreach/admissions services of the four-year segments with respect to helping them achieve transfer eligibility and helping them compete academically at the institutions to which they have transferred? What factors do these students perceive as supporting or undermining their efforts to achieve transfer eligibility?

3. Are there any District or inter-institutional policies and practices which needlessly complicate the transfer preparation process?

4. For a given entering class, how many students express an interest in transferring, show the aptitude for realizing this objective, enroll in transferable courses and perform at a required level which, if continued, will bring them to be transfer eligible by a given time?

5. How many new students are eligible to UC, CSU, or other four-year institutions?

6. How many do we make eligible?

7. How many plan to transfer?

8. How many actually apply and are admitted?

9. How many eligibles apply and are not admitted?

10. How many completed?

11. How many dropped out?

12. At what point do they tend to transfer?

13. What reason did the rest of the transfer pool give for leaving?

14. Of those who could transfer at any given point for a given class, how many did?

15. How many of a given class became eligible by X time?

Transfer Framework

As outlined, past efforts to gauge the transfer function have been flawed--the formulas developed thus far have not satisfactorily related to the student population which policy makers have traditionally had in mind when discussing the transfer function, and these less than perfect formulas have helped to bring about unfair criticism of the community colleges. As stated, these flawed efforts reflect the lack of an explicit statement by State officials about their population of interest: one that identifies the particular student group they have in mind when discussing the "transfer rate" or the "potential transfer pool." This lack of specificity results in many formal announcements about the need to transfer "community college students," rather than the need to transfer a particular student subgroup with the necessary qualifications and interests.

Educators, who are held responsible for transferring students from the potential pool, have not helped their case any by developing formulas for gauging the transfer rate in a way that involves inappropriate student groups. Many of the formulas which have been developed to gauge the transfer rate have included inappropriate student groups simply because information was conveniently available on them and not on more relevant students. This approach, of course, assures neither the validity nor the policy relevance of a transfer rate formula, and it often leads to controversy which detracts from the task at hand.

In the absence of an explicit statement by State officials, those to be held accountable can only conjecture about the makeup of the student population with which educators need to be working for transfer and accounting purposes.

From legislative bills, related hearings, conferences, and research, one would assume, at the very least, that State officials and segment administrators have three policy-related questions which they would like to see evaluated on a regular basis:

1. What proportion of students who **leave** the community colleges go on to four-year institutions?

2. From **the pool of students** who have an interest in transferring, who have the aptitude to do so, and who take the appropriate course work, what proportion become transfer eligible, are admitted to a four-year segment and actually transfer?

3. How many students who initially take basic skills and pre-college classes move into college course work and subsequently transfer?

In answering these questions, it will be assumed that the primary transfer responsibility of the community colleges is to help students having the appropriate interests, aptitude, and commitment to become **transfer eligible**--not to guarantee their admission and enrollment into a four-year institution. As is known, the majority of factors which determine an eligible student's admission and enrollment into the four-year segments are those over which the community colleges have no control. These include the restrictions placed by the four-year segments on campus enrollment, the number of openings in a student's major program, available housing and financial aid, and competing family commitments. Accordingly, the community colleges should be viewed as having met their Master Plan transfer responsibilities to the extent that they provide said students the appropriate course work and support services which will allow them to achieve transfer eligibility status. The success of the community colleges in meeting their Master Plan responsibilities should not, as is currently the practice, be measured solely by the number of students who enroll in a four-year segment.

For these reasons, the success of the District in meeting its student transfer responsibilities will be measured primarily by the number of students from the District's potential transfer population who actually become transfer eligible. In order to have a full accounting, the District will also measure the number of eligible students who are admitted to a four-year segment, and the number of these admits who actually enroll. The following sections detail how these and other measures will be developed to evaluate the foregoing policy questions.

Several key terms need to be defined and operationalized. These will be used subsequently to outline a framework and related formulas for evaluating said questions. These are:

Potential Transfer Population (PTP): This population of students includes those who (1) have indicated an interest in transferring; (2) have the aptitude to make themselves transfer eligible; (3) have completed at least twelve units of college-level course work **within a one-year period** within their academic career which is transferable to their targeted four-year institution and major but who have yet to attain transfer eligibility; (4) have attained a grade point average (gpa) of 2.5 or better in all such course work, or are performing at a level which if continued

will make them transfer eligible to their targeted institution/major; and (5) who have met with an advisor or counselor who confirms "1" and "2," and who has approved the course work in "3". This definition will help us to develop a formula which pertains to a more policy relevant student group than previous attempts. The **PTP** includes just students whom the community colleges should be helping to transfer and the only population for which this segment should be held accountable for this purpose. **PTP** does not include students who do not express an interest in transferring but who later transfer to a four-year institution anyway. Such students do not identify themselves or do not request transfer services, and the sudden change in their educational objectives may be extremely difficult to predict, if at all. The community colleges therefore cannot be held accountable for assisting such students in their transfer efforts. PTP also excludes students who have enrolled for non-transfer reasons, such as (1) to complete a vocational or certificate program, (2) to take personal development courses, or (3) to up-grade job-related or basic skills.

The stipulation that these students should have completed at least **twelve units** of college-level courses within a one-year period assures that the **PTP** includes mostly those students who are committed to completing a transfer curriculum. Adelman (1990) has found that there is a great discrepancy between "student declaration of interest in obtaining postsecondary education, plans for doing so and behavior as recorded on institutional transcripts, with interest exceeding plans that in turn, tend to go beyond actual behavior."

In light of these findings, we need to complement student comments about their educational objectives with actual behavioral correlates which support their plans. This additional criteria thus builds on the Berman transfer effectiveness formula which rests solely on student self-assessment of their intent to transfer, and it incorporates Cohen's (1990) recommendation that we look at students showing commitment to college by including those who have taken twelve or more college-level units. By adding the stipulation that these units be completed within a one-year period, the District's transfer priority will concern those students who show the greatest transfer commitment and the greatest need for transfer-related curriculum and services. Transfer accountability reports should be based on just these students. Those who do not meet the PTP requirements, cannot meaningfully be used to gauge how well the District is preparing its "potential transfer students."

Student **"interest"** will be assessed through the District's admissions process and updated periodically by an advisor or counselor. With each reassessment, the number of PTP students for a given entering class may vary. It is possible that some students who meet the PTP requirements may decide not to transfer, and those who previously did not express an interest in transferring may suddenly do so and proceed to meet the PTP requirements. Transfer formulas which use the PTP as a term will yield different values as students change their educational objectives.

A student's **"aptitude"** will be based on his or her high school transcript and/or appropriate assessment procedures. **"Transfer courses"** will be those which the targeted four-year segment has identified and approved as providing transferable credits toward a student's general education or major requirements. **"Performing at level required"** in these courses will be defined as maintaining the **minimum overall** grade point average (gpa) every semester which

is required for transfer eligibility status by the four-year segment, campus, and major which a potential transfer student has targeted. This can vary from a gpa of 2.5 to 3.5.

It should be noted that achieving this eligibility status by attaining the minimum gpa required does not ensure admission. Since admission to the four-year segments is competitive, the likelihood that a student will be able to transfer will increase to the extent that his/her gpa approaches the 4.0 level and required test scores approach the maximum possible. Additionally, as has been stated, there are contextual factors external to the District that determine whether a transfer eligible student is admitted to a targeted four-year institution. These include segment enrollment ceilings, availability of financial aid or housing , impacted programs related to a student's major which admit relatively few students, and competing family commitments.

Four criteria will be used to operationalize the PTP for a given semester or year. They are:

Criteria 1 (PTP_UC): this is a subgroup of PTP which includes those students who are planning to transfer to UC.

Criteria 2 (PTP_CSU): this is a subgroup of PTP which includes those students who are planning to transfer to CSU but not UC.

Criteria 3 (PTP_OT): this is a subgroup of PTP which includes those students who are planning to transfer to a four-year institution other than (OT) a UC or CSU campus.

Criteria 4 (PTP_ALL): this is a composite of all groups defined by criteria 1-3.

Vocational Education Population (VEP): This population of students includes those who (1) indicate that their educational objective is to enroll in a vocational education program and not to transfer to a four-year segment; (2) have the aptitude to complete their selected program; (3) have completed at least twelve units of college-level course work within a one-year period; (4) have attained a grade point average (gpa) of 2.5 or better in all such course work or are performing at the passing level required by their program; and (5) who have met with an advisor or counselor who confirms "1" and "2," and who has approved the course work in "3". The rationale for these VEP criteria are similar as those for the PTP.

Leavers (L): This population of students includes those from the PTP and VEP who leave in a given semester or year and who do not re-enroll. Other community college districts and the four-year segments will be asked to report any student from the District who transferred to their programs. These external accounts and annual District reports on returning students will be used to determine whether a student has truly left, has "stopped-out," or transferred to either a two- or four-year institution. This information will be used to update initial estimates annually up to six years after date of departure. Leavers who are known to have transferred to a two-year institution, or have earned less than twelve college-level units, or have a BA degree or higher, or are concurrently enrolled in or on leave from a four-year institution will be excluded from this population. Leavers who transfer to other post-secondary institutions which do not participate in the District's tracking program, of course, will not be accounted for, and, to the extent that they are not, leaver calculations will be unreliable. Though less than perfect, these estimates can still be useful for planning and accountability purposes.

Eight criteria will be used to determine the population of leavers for a given semester or year. They are:

Criteria 1 (L_UC): This subgroup of leavers includes students from the **PTP** who planned to transfer to UC.

Criteria 2 (L_CSU): This subgroup of leavers includes students from the **PTP** who planned to transfer to CSU.

Criteria 3 (L_OT): This subgroup of leavers includes students from the **PTP** who planned to transfer to a four-year institution other than (OT) a UC or CSU campus.

Criteria 4 (L_PTP): This is a composite of all **PTP** subgroups defined criteria 1-3.

Criteria 5 (L_VEP): This subgroup of leavers includes those students from the VEP.

Criteria 6 (L_PTPVEP): This is a composite of all subgroups from the **PTP** and **VEP** who actively pursued a transfer or vocational education objective, criteria 1-3 and 5.

Criteria 7 (L_MISC): This subgroup of leavers includes those students who were neither from the **PTP** nor **VEP**.

Criteria 8 (L_TOTAL): This is a composite of all leaver subgroups defined by criteria 1-3 and 5-7.

Transfer Eligibles (TE): this population includes those students whose course work has been evaluated by a targeted four-year institution and granted eligibility status on the basis of their performance and selected major. Transfer eligibles who earned less than twelve college-level units, or had an AA degree or higher from another District, or were concurrently enrolled in or were on leave from a four-year institution will be excluded from this population. Students who become transfer eligible to post-secondary institutions which do not participate in the District's tracking program, of course, will not be included in this accounting, and, to the extent that they are not, **TE** calculations will be unreliable. As mentioned, these estimates, though less than perfect, can still be useful for planning and accountability purposes.

Nine criteria will be used to operationalize TE for a given semester or year. They are:

Criteria 1 (TE_UC): This is a subgroup of TE which includes those **PTP-UC** students who worked to become transfer eligible to UC and succeeded.

Criteria 2 (TE_CSU): This is a subgroup of TE which includes those **PTP-CSU** students who worked to become transfer eligible to CSU but not UC and succeeded.

Criteria 3 (TE_OT): This is a subgroup of TE which includes those **PTP-OT** students who worked to become transfer eligible to a four-year institution other than (OT) a campus of UC or CSU and succeeded.

Criteria 4 (TE_PTP): This is a composite of all **PTP** subgroups defined by criteria 1-3.

Criteria 5 (TE_MISC_PTP): This is a subgroup of TE which includes **PTP** students who became eligible to a four-year segment other than what was originally targeted. This group can be further subdivided into groups that went to UC, CSU, or another four-year institution.

Criteria 6 (TE_MISC_VEP): This is a subgroup of TE which includes **VEP** students who became eligible to a four-year institution. This group can be further subdivided into groups that went to UC, CSU, or another four-year segment.

Criteria 7 (TE_MISC_ELSE): This is a subgroup of TE which includes students who are neither part of **PTP** nor the **VEP** but who nevertheless became transfer eligible to a four-year institution. This can occur when a student who is UC eligible upon graduation from high school takes several courses in the District, does not express interest in transferring to his/her advisor or counselor, and subsequently transfers. This group can be further subdivided into groups that went to UC, CSU, or another four-year segment.

Criteria 8 (TE_MISC_ALL): This is a composite of all groups defined by criteria 5-7.

Criteria 9 (TE_TOTAL): This is a composite of all groups defined by criteria 1-3 and 5-7.

Transfer Admits (TA): This population includes those students who are reported by a four-year institution to have been admitted at least one year after their departure. Annual reports from UC, CSU, and other postsecondary institutions will be used to obtain as complete an accounting as possible of transfers. Additional information on transfers will be used to update initial estimates annually up to six years after date of departure. (See Addendum B for accounting report format to be used.) They may or may not be enrolled in the District. Transfer admits who earned less than twelve college-level units, or had an AA degree or higher from another District, or were concurrently enrolled or were on leave from a four-year institution will be excluded from this population. Students who become transfer eligible to post-secondary institutions which do not participate in the District's tracking program, of course, will not be included in this accounting, and, to the extent that they are not, TE calculations will be unreliable. Again, these estimates can still be useful for planning and accountability purposes even though they are based on less than a complete accounting.

Nine criteria will be used to operationalize TA for a given semester or year. They are:

Criteria 1 (TA_UC): This is a subgroup of TA which includes **TE-UC** students who are admitted UC.

Criteria 2 (TA_CSU): This is a subgroup of TA which includes **TE-CSU** students who are admitted to CSU but not UC.

Criteria 3 (TA_OT): This is a subgroup of TA which includes **TE-OT** students who are admitted to a four-year institution other than (OT) a campus of UC or CSU.

Criteria 4 (TA_PTP): This is a composite of all groups defined by criteria 1-3.

Criteria 5 (TA_MISC_PTP): This is a subgroup of TA which includes **TE_MISC_PTP** students who were admitted to a four-year segment other than what was originally targeted. This group can be further subdivided into groups that were admitted to UC, CSU, or another four-year institution.

Criteria 6 (TA_MISC_VEP): This is a subgroup of TA which includes **TE_MISC_VEP** students who were admitted to a four-year institution. This group can be further subdivided into groups that were admitted to UC, CSU, or another four-year segment.

Criteria 7 (TA_MISC_ELSE): This is a subgroup of TA which includes **TE_MISC_ELSE** students who are neither part of **PTP** nor the **VEP** but who nevertheless were admitted to a four-year institution. This often occurs when a student who is UC eligible upon graduation from high school takes several courses in the District, completes less than twelve college-level units, does not express interest in transferring to his/her advisor or counselor, and subsequently gets admitted to a four-year segment. This group can be further subdivided into groups that were admitted to UC, CSU, or another four-year segment.

Criteria 8 (TA_MISC_ALL): This is a composite of all groups defined by criteria 5-7.

Criteria 9 (TA_TOTAL): This is a composite of all groups defined by criteria 1-3 and 5-7.

Transfers (T): This population includes students who are reported by a four-year institution to have enrolled at least one year after their departure. Annual reports from UC, CSU, and other postsecondary institutions will be used to obtain as complete an accounting as possible of transfers. Additional information on transfers will be used to update initial estimates annually up to six years after date of departure. (See Addendum B for example of accounting report format which may be used.) Transfers who earned less than twelve college-level units, or had an AA degree or higher from another District, or were concurrently enrolled or were on leave from a four-year institution will be exclude from this population. Transfers to other post-secondary institutions which do not participate in the District's tracking program will not be accounted for, and, to the extent that this occurs, transfer estimates will be unreliable. As stated, these estimates, while less than perfect, can still be useful for planning and accountability purposes.

Nine criteria will be used to measure the population of transfers for a given semester or year. They are:

Criteria 1 (T_UC): This is a subgroup of T which includes those **TA_UC** students who planned on transferring to UC and actually did so.

Criteria 2 (T_CSU): This is a subgroup of T which includes those **TA_CSU** students who planned on transferring to CSU but not UC and actually did so.

Criteria 3 (T_OT): This is a subgroup of T which includes those **TA_OT** students who planned on transferring to a four-year institution other than (OT) a campus of UC or CSU and actually did so.

Criteria 4 (T_PTP): This is a composite of all groups defined by criteria 1-3 which reached their targeted transfer objectives (TO).

Criteria 5 (T_MISC_PTP): This is a subgroup of T which includes **TA_MISC_PTP** students who ended up going to a four-year segment other than what was originally targeted. This group can be further subdivided into groups that went to UC, CSU, or another four-year institution.

Criteria 6 (T_MISC_VEP): This is a subgroup of T which includes **TA_MISC_VEP** students who transferred to a four-year segment. This group can be further subdivided into groups that went to UC, CSU, or another four-year institution.

Criteria 7 (T_MISC_ELSE): This is a subgroup of T which includes **TA_MISC_ELSE** students who were neither part of **PTP** nor the **VEP** but who nevertheless transferred. This can occur when a student who is UC eligible upon graduation from high school takes several courses in the District, does not express interest in transferring to his/her advisor or counselor, and subsequently transfers. This group can be further subdivided into groups that went to UC, CSU, or another four-year institution.

Criteria 8 (T_MISC_ALL): This is a composite of all groups defined by criteria 5-7.

Criteria 9 (T_TOTAL): This is a composite of all groups defined by criteria 1-3 and 5-7.

The evaluation of the third policy question concerning this study will require the following terms:

Basic Skills Population (BSP): For a given entering class, this population of students includes those who were enrolled mostly (over 50%) in basic skills courses during their first year.

Basic Skills Potential Transfer Population (BSPTP): For a given entering class, this population of students includes those who (1) in their first semester enrolled mostly (over 50%) in basic skills courses (Level 1); (2) indicate an interest in moving into pre-college (Level 2) and college (Level 3) curricula for the purpose of transferring to a four-year institution; (3) have the aptitude to make themselves transfer eligible; (4) have completed at least twelve units of Level 1 and 2 course work within a one-year period and completed twelve units of Level 3 course work within a two-year period which is transferable to targeted four-year institution/major; (5) have attained a grade point average (gpa) of 2.0 for Level 1 and 2 course work and a gpa of 2.5 (or whatever is needed) in Level 3 course work which if continued will make them transfer eligible to their targeted institution/major; and (6) have met with an advisor or counselor who confirms "2" and "3," and who has approved the course work in "4."

Pre-College Population (PCP): For a given entering class, this population of students includes those who were enrolled mostly (over 50%) in pre-college level courses during their first year.

Pre-College Potential Transfer Population (PCPTP): For a given entering class, this population of students includes those who (1) in their first semester enrolled mostly (over 50%) in pre-college courses (Level 2); (2) indicate an interest in moving into college level (Level 3) curricula for the purpose of transferring to a four-year institution; (3) have the aptitude to make themselves transfer eligible; (4) have completed at least twelve units of Level 2 and 3 course work within a one-year period and completed twelve units of Level 3 course work which is transferable to targeted four-year institution/major within a two-year period; (5) have attained a grade point average (gpa) of 2.0 for Level 2 course work and a gpa of 2.5 (or whatever is needed) in Level 3 course work which if continued will make them transfer eligible to targeted institution/major; and (6) have met with an advisor or counselor who confirms "2" and "3," and who has approved the course work in "4."

As was done for the PTP, student "**interest**" for BSPTP and PCPTP will be assessed through the District's admissions process and updated periodically by an advisor or counselor. As noted, with each reassessment, the number of students in each of these populations for a given entering class may vary. Again, it is possible that some students who meet the requirements for these populations may decide not to transfer up to a higher college course level or to a four-year institution. Those who previously did not express an interest in moving upwards may suddenly do so and proceed to meet the related requirements. Transfer formulas which use the BSPTP and PCPTP as terms will yield different values as students change their educational objectives.

A student's "**aptitude**" will be based on his or her high school transcript and/or appropriate assessment procedures. "**Basic skills, pre-college, and college-level courses**" are those so determined by the District colleges. "**Transfer courses**" will be those which the targeted four-year segment has identified and approved as providing transferable credits toward a student's general education or major requirements. "**Performing at level required**" in these courses will be defined as maintaining the minimum overall grade point average (gpa) every semester which is required for transfer eligibility status by the 4-year segment, campus, and major which a potential transfer student has targeted. This can vary from a gpa of 2.5 to 3.5.

Basic Skills Transfers Level 1-2 (BSTL12): This subgroup of **BSPTP** includes students who had completed at least twelve units of Level 1 and 2 course work within a one-year period and were enrolled mostly (over 50%) in Level 2 course work by their third semester.

Basic Skills Transfers Level 2-3 (BSTL23): This subgroup of **BSTL12** includes students who completed twelve units of Level 3 transferable course work within a two-year period and were enrolled mostly (over 50%) in Level 3 course work by their fifth semester.

Basic Skills Transfer Eligibles (BSTELIG): This subgroup of **BSTL23** includes students who achieved transfer eligibility status.

Basic Skills Transfer Admits (BSTADMIT): This subgroup of **BSTELIG** includes students who were admitted to a four-year institution.

Basic Skills Transfer Enrollees (BSTENRL): This subgroup of **BSTADMIT** includes students who enrolled in a four-year institution.

Pre-College Transfers Level 2-3 (PCTL23): This subgroup of **PCTP** includes students who completed twelve units of Level 3 transferable course work within a two-year period, and who were enrolled mostly (over 50%) in Level 3 course work by their fifth semester.

Pre-College Transfer Eligibles (PCTELIG): This subgroup of **PCTL23** includes students who achieved transfer eligibility status.

Pre-College Transfer Admits (PCTADMIT): This subgroup of **PCTELIG** includes students who were admitted to a four-year institution.

Pre-College Transfer Enrollees (PCTENRL): This subgroup of **PCTADMIT** includes student who enrolled in a four-year institution.

Evaluation of Policy Questions

In this section, the three broad transfer policy questions with which this discussion began and some of their corollaries are addressed. Each set of questions and the formulas which may be used for evaluating these are presented. These equations build on the terms which have been defined in the foregoing section. This is a first attempt to operationalize in a comprehensive manner the concepts of "transfer rates, transfer effectiveness, transfer efficiency, and transfer progress" and to relate these to a given entering class, segment and major. The questions listed and the operational procedures proposed are not exhaustive. They build on past efforts.

Hopefully, they will help to fine tune the evaluation of the transfer function and bring about a fairer and more balanced review procedures than previous efforts. The proposed study will determine how well these terms are measured, their practicality, and make recommendations for future evaluations of transfer policy questions.

Question 1 and Corollaries

1a. What proportion of students who **leave** the community colleges go on to 4-year institutions?

1b. What proportion of **leavers** become transfer eligible, are admitted and actually enroll in a particular four-year segment?

1c. What proportion of **leavers** had planned to transfer, and what proportion of these students succeeded in becoming (1) transfer eligible, (2) getting admitted, and (3) enrolling in a four-year institution?

1d. Do the proportions of **leavers** obtained in "1c" vary significantly for different entering classes?

To evaluate Question 1a, a general approach (**GENLTR**) will be used to gauge **leaver transfer rate (LTR)** for a given semester/year. Specifically, the number of students who transfer at the end of a given semester or academic year (T_TOTAL) divided by the number of PTP AND VEP students who leave at the end of this semester or academic year and do not return at the end of this period (L_PTPVEP), regardless of whether or not they have achieved their objectives:

$$GENLTR = T_TOTAL/L_PTPVEP \quad (1a)$$

This is a very general measure of transfer rate, as was true for the Berman et al. formula by the same name (i.e., TR=T/L). However, in this case and for related LTR measures which will be presented shortly, the criteria defining the denominator, L_PTPVEP, is more stringent than that used by Berman to define "L." It excludes subgroups which were not actively involved in the District's curriculum (i.e., had yet to complete twelve credits of college level course work and to set an educational objective with their advisor/counselor), and hence L_PTPVEP is more relevant to the general notion of transfer rate being assessed.

To evaluate Question 1b, the **numerator** of the GENLTR formula will be varied to determine leaver eligibility (LE), admit status (LA), and enrollment (LENRL) rates for various subgroups, specifically, the proportion of PTP and VEP leavers who intended to transfer and who:

(1) became transfer eligible: **L:ELIG**=TE_PTP/L_PTPVEP (1b.1)

(2) were eligible to a specific segment:
- UC L:EUC=TE_UC/L_PTPVEP (1b.2)
- CSU L:ECSU=TE_CSU/L_PTPVEP (1b.3)
- OT L:EOT=TE_OT/L_PTPVEP (1b.4)

(3) were admitted to a four-year institution: **L:ADMIT**=TA_PTP/L_PTPVEP (1b.5)

(4) were admitted to a specific segment:
- UC L:AUC=TA_UC/L_PTPVEP (1b.6)
- CSU L:ACSU=TA_CSU/L_PTPVEP (1b.7)
- OT L:AOT=TA_OT/L_PTPVEP (1b.8)

(5) enrolled in a four-year institution: **L:ENRL**=T_PTP/L_PTPVEP (1b.9)

(6) enrolled in a specific segment:
- UC L:ENRLUC=T_UC/L_PTPVEP (1b.10)
- CSU L:ENRLCSU=T_CSU/L_PTPVEP (1b.11)
- OT L:ENRLOT=T_OT/L_PTPVEP (1b.12)

To evaluate Question 1c, the **denominator** of the GENLTR formula will be varied to calculate for a given semester/year a **leaver transfer effectiveness rate (LTER)** for each of the foregoing subgroups based on their respective subtotals within L_PTP, the number of PTP and VEP

students who leave in a given semester/year and do not return. That is, the number of leavers who intended to and became transfer eligible (TE_UC, TE_CSU, TE_OT, TE_PTP), admitted (TA_UC, TA_CSU, TA_OT, TA_PTP), or transferred to UC, CSU or another four-year institution and will be divided by those leavers who had planned to transfer to UC, CSU, or another segment respectively (L_UC, L_CSU, L_OT, L_PTP). This will yield several **LTERs**, namely, the proportion of PTP leavers (PTPL) who had intended to transfer and who:

(1) became transfer eligible: **PTPL:ELIG=TE_PTP/L_PTP (1c.1)**

(2) were eligible to a specific segment:

UC PTPL:EUC=TE_UC/L_UC (1c.2)

CSU PTPL:ECSU=TE_CSU/L_CSU (1c.3)

OT PTPL:EOT=TE_OT/L_OT (1c.4)

(3) were admitted to a four-year institution: **PTPL:ADMIT=TA_PTP/L_PTP (1c.5)**

(4) were admitted to a specific segment:

UC PTPL:AUC=TA_UC/L_UC (1c.6)

CSU PTPL:ACSU=TA_CSU/L_CSU (1c.7)

OT PTPL:AOT=TA_OT/L_OT (1c.8)

(5) enrolled in a four-year institution: **PTPL:ENRL=T_PTP/L_PTP (1c.9)**

(6) enrolled in a specific segment:

UC PTPL:ENRLUC=T_UC/L_UC (1c.10)

CSU PTPL:ENRLCSU=T_CSU/L_CSU (1c.11)

OT PTPL:ENRLOT=T_OT/L_OT (1c.12)

These LTER measures are an improvement over the Berman TE formula that attempts to do as much (i.e.,(TE=Type 1+Type 3/Type 1+Type 2)X100). Equation 1c.9 proposed here is most comparable to TE. The terms of the LTER measures, however, are based on more stringent criteria than the TE index, and thus they help to assure that the student groups involved are relevant to the transfer effectiveness notion being addressed.

To evaluate Question 1d, any of the equations in the foregoing sections can be applied to specific entering classes of interest. For example, the PTPL:ELIG or PTPL:ENRL rates for the Class of Fall 1988 can be compared with those of the Class of Fall 1991 will be compared. These rates of interest are those defined by the TE=TE_PTP/L_PTPVEP and TPTP=T_PTP/L_PTP equations. In calculating the former, the number of PTP students who were transfer eligible from the Class of Fall 1988 and who left at a certain point would be divided by the total number of PTP students from this class who may or may not have been transfer eligible and who left at the same point in time. In applying the latter, the number of PTP students who transferred from the Class of Fall 1988 at a certain point would be divided by the total number of PTP

students from this class who may or may not have transferred and who left at the same point in time. Similar calculations would be carried out for the Class of Fall 1991, and appropriate comparisons would be made.

Question 2 and Corollaries

2a. What percent of students become transfer eligible, are admitted to a four-year segment and actually transfer of the potential transfer population (PTP)?

2b. Do the proportions of "2a" vary significantly for different entering classes?

2c. How long did it take for the different groups in "2a" to become eligible, admitted, and to transfer?

To evaluate Question 2a, the **LTER** equations developed to evaluate Questions 1c and 1d will be varied to obtain a **transfer effectiveness rate (TER)** based on the **enrolled potential transfer pool (PTP)** generally and for each subgroup within this pool for a given semester/year. These **TER** measures will be based on the number of leavers who intended to become eligible (TE_UC, TE_CSU, TE_OT, TE_ALL), get admitted (TA_UC, TA_CSU, TA_OT, TA_ALL), or transfer to UC or CSU or another four-year institution (T_UC, T_CSU, T_OT, T_ALL) divided by the number of PTP students **still enrolled** who plan to transfer to UC, CSU, or another segment respectively (PTP_UC, PTP_CSU, PTP_OT, PTP_ALL). This will yield several **TERs**, specifically, the proportion of the enrolled potential transfer pool students (POOL) who:

(1) became transfer eligible: **POOL:ELIG**=TE_PTP/PTP_ALL (2a.1)

(2) were eligible to a specific segment:
- UC: POOL:EUC=TE_UC/PTP_UC (2a.2)
- CSU: POOL:ECSU=TE_CSU/PTP_CSU (2a.3)
- OT: POOL:EOT=TE_OT/PTP_OT (2a.4)

(3) were admitted to a four-year institution: **POOL:ADMIT**=TA_PTP/PTP_ALL) (2a.5)

(4) were admitted to a specific segment:
- UC: POOL:AUC=TA_UC/PTP_UC (2a.6)
- CSU: POOL:ACSU=TA_CSU/PTP_CSU (2a.7)
- OT: POOL:AOT=TA_OT/PTP_OT (2a.8)

(5) enrolled in a four-year institution: **POOL:ENRL**=T_PTP/PTP_ALL (2a.9)

(6) enrolled in a specific segment:
- UC: POOL:ENRLUC=T_UC/PTP_UC (2a.10)
- CSU: POOL:ENRLCSU=T_CSU/PTP_CSU (2a.11)
- OT: POOL:ENRLOT=T_OT/PTP_OT (2a.12)

To evaluate Question 2b, any of the equations in the foregoing section can be applied to specific entering classes of interest. For example, the POOL:ENRL measure for the Class of Fall 1988 can be compared with that for the Class of Fall 1991. To make this calculation, the number of students who transferred from the Class of Fall 1988 and who left at a certain point would be divided by the total number of PTP students from this class who were still enrolled at this same point in time. Similar calculations would be carried out for the Class of Fall 1991, and appropriate comparisons will be made.

To evaluate Question 2c, Two other concepts will be developed through this study:

Transfer efficiency: The average amount of time it takes for a student in the potential transfer population to become transfer eligible and to actually transfer.

Transfer progress: The rate at which students are progressing toward realizing their transfer potential. This will be operationalized by determining the percent of units completed of the total needed to become transfer eligible within a given semester or year.

Each of these measures will be calculated on specific entering classes of interest.

All measures taken will be distributed by college, targeted four-year institutions/major, gender, ethnicity, and age, as appropriate and to the extent possible. It should be kept in mind that there are numerous contextual factors which help to determine transfer eligibility, transfer admission, and transfer rates. These include available financial aid and housing, the degree to which a program/campus is impacted, whether or not transfer agreements with the four-year segments are honored, and the admissions policies of four-year institutions.

The LTER and TER measures presented build on the efforts of Berman et al. These new measures, however, limit the denominator to a student population which is most relevant to policy concerns about transfer students. They have the advantage of allowing one to tie the transfer effectiveness rate to a particular entering class. As discussed earlier, this relationship stabilizes the denominator and permits a more valid assessment of transfer effectiveness than the Berman formula. Additionally, the measures presented here allow one to determine transfer efficiency and progress. It needs to be stressed that these measures are exploratory and need to be refined through appropriate research. For the moment, they provide a point of departure which builds on past efforts.

It should be noted that both the numerators and denominators of LTER and TER formulas are dynamic: their initial values will change as follow-up information is received about the number of transfers and leavers on which they are based. As mentioned, students who leave and transfer to four-year institutions which do not participate in the District's tracking efforts will work to underestimate the transfer rate. Research in this area suggests that after five years, 97% of students who left and intended to transfer in a given semester/year to UC and CSU will have enrolled in their targeted segment, and 99.5% after 10 years (Sewart, 1990). It is imperative then to continue follow up efforts on each transfer group of interest for at least five years to obtain a reliable estimate of transfer rates and for as long as ten years to get a complete accounting. (See Addendum for format to be used for this evaluation.)

Question 3 and Corollaries

3a. What proportion of students who initially enroll in a **basic skills** program move into pre-college classes and later into college level course work?

3b. What proportion of these basic skills students become transfer eligible, are admitted and subsequently transfer?

3c. What proportion of students who initially take **pre-college** classes move into college level course work?

3d. What proportion of these pre-college students become transfer eligible, are admitted and subsequently transfer?

To evaluate Question 3a, the number of basic skills students who entered in a given semester/year and who transfer into pre-college course work (**BSTL12**) will be calculated and divided by the total number of students who entered in this given semester/year and who enrolled mostly (over 50%) in basic skills courses during their first year (**BSP**). The equation for the proportion of basic skills transfers Level 1 (**BSTL1**) is thus:

$$BSTL1 = BSTL12/BSP \qquad (3a.1)$$

To determine the proportion of these students who move from pre-college to college level course work (**BSTL23**), Level 2, the following formula will be used:

$$BSTL2 = BSTL23/BSTL12 \qquad (3a.2)$$

To evaluate Question 3b, the following equations will be used to calculate the proportion of basic skills students included in **BSL23** who achieve transfer eligibility status (**BSELIG**), who become eligible and are admitted to a four-year institution (**BSADMIT**), and who are admitted and enroll in a four-year institution (**BSENRL**):

$$BSELIG = BSTELIG/BSTL23 \qquad (3b.1)$$

$$BSADMIT = BSTADMIT/BSTELIG \qquad (3b.2)$$

$$BSENRL = BSTENRL/BSTADMIT \qquad (3b.3)$$

To evaluate Question 3c, the number of pre-college level students who entered in a given semester/year and who transferred into college level course work (**PCTL23**) will be calculated and divided by the total number of students who entered in this given semester/year and who enrolled mostly (over 50%) in pre-college courses during their first year (**PCP**). The equation for the proportion of pre-college students who transfer to Level 3 course work (**PCTL23**) is thus:

$$PCPL1 = PCTL23/PCP \qquad (3c.1)$$

To evaluate Question 3d, the following equations will be used to calculate the proportion of pre-college students included in **PCTL23** who achieve transfer eligibility status (**PCELIG**), who become eligible and are admitted to a four-year institution (**PCADMIT**), and who are admitted and enroll in a four-year institution (**PCENRL**):

$$PCELIG = PCTELIG/PCTL23 \quad (3d.1)$$

$$PCADMIT = PCTADMIT/PCTELIG \quad (3d.2)$$

$$PCENRL = PCTENRL/PCTADMIT \quad (3d.3)$$

The foregoing rates, related instructional programs and student services will be monitored annually to gauge ongoing changes in the transfer function.

The equations proposed here (1a. - 3d.3) address the concerns of legislators, educators, and the tax-paying public. That is, they allow all stakeholders to know whether or not the community colleges are assisting and preparing potential transfer students for successful admission to four-year institutions, whether this preparation is being done at an acceptable level, and whether transfer support is being provided in the most efficient manner. Additionally, these criteria can provide policy-relevant transfer rate data in a way that is not inappropriately influenced by the other purposes of the community colleges.

In summary, the overarching goal of this project is (1) to profile the transfer and articulation context, (2) to present the salient features of the State/segment/District/college nexus which spotlights the transfer and articulation functions, and (3) to outline the initial steps towards understanding in richer terms how these functions play out within the District, with an aim toward developing a framework for monitoring these functions and relating them to transfer policy concerns.

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UC UNDERGRADUATE LONGITUDINAL DATABASE

DATA ELEMENT	FOCUS NAME	FORMAT
SEGMENT = CAMPUS		
CAMPUS REGISTERED NAME	CAMPUS	A14
UC LOCATION CODE 1-MAJOR LOCATION	CCAMPUS	A2
YEAR OF MOST RECENT ENROLLMENT	LASTENTERYR	I4
SEGMENT = ENTERING YEAR		
YEAR OF FIRST ENROLLMENT	ENTERYR	I4
SEGMENT = STUDENT ID		
IDENTIFICATION NUMBER-STUDENT	LKEY	A12
SEGMENT = STUDENT INFO		
APPLICANT ADMIT CATEGORY CODE	CADMCAT	A1
APPLICANT ADMIT CATEGORY NAME	ADMCAT	A12
APPLICANT TYPE CODE	CAPPTYPE	A2
BEST ACHV SCORE-ENGLISH COMP	ACHSCRENG	I3
BEST ACHV SCORE-LANG/SOCSCI	ACHSCRLSS	I3
BEST ACHV SCORE-MATH	ACHSCRMTH	I3
BEST ACT SCORE-COMPOSITE	ACTSCRCMP	I2
BEST ACT SCORE-ENGLISH	ACTSCRENG	I2
BEST ACT SCORE-MATH	ACTSCRMTH	I2
BEST ACT SCORE-NAT SCI	ACTSCRNAT	I2
BEST ACT SCORE-SOCIAL STUD	ACTSCRSOC	I2
BEST SAT SCORE-MATH	SATSCRMTH	I3
BEST SAT SCORE-VERBAL	SATSCRVRB	I3
CAMPUS OF MOST RECENT ATTENDANCE CODE	CLASTCAM	A2
CAMPUS OF MOST RECENT ATTENDANCE NAME	LASTCAMPUS	A14
CITIZENSHIP COUNTRY CODE	CCOFC	A3
CITIZENSHIP COUNTRY NAME	COFC	A28
COLLEGE PROPOSED CODE	CCOLPRP	A2
COLLEGE PROPOSED NAME	COLPRP	A38
DATE OF BIRTH	BIRTHDATE	A6YMD
DISABILITY TYPE CODE	CDISTYPE	A1
ELIGIBILITY FOR ADMISSION CODE	CELIGADM	A2
ELIGIBILITY FOR ADMISSION NAME	ELIGADM	A14
ENTERING TERM	ENTERQTR	A1
EOP/AAP PARTICIPATION CODE-ADMISSION	EOPA	A1
ETHINC ORIGIN CODE-REGISTRATION	CETHNICR	A1
ETHINC ORIGIN NAME-REGISTRATION	ETHNICR	A20
HIGH SCH ELIG-ADV STG APPLICANT	CASHSELIG	A1
HIGH SCH GPA (AFGP/AFUNITS)	FGPA	F4.2
HIGH SCH GRD POINTS A-F PATTERN	AFGP	F4.1
HIGH SCH UNITS A-F PATTERN	AFUNITS	F4.1
HIGH SCHOOL GPA-SELF REPORTED	ESTHSGPA	F4.2
HIGH SCHOOL GRAD FROM CITY	HSCITY	A18
HIGH SCHOOL GRAD FROM CODE	CHSGRAD	A3
HIGH SCHOOL GRAD FROM LOCATION CODE	HSLOCCD	A3
HIGH SCHOOL GRAD FROM LOCATION NAME	HSLOCNME	A28
HIGH SCHOOL GRAD FROM NAME	HSNAME	A40
HIGH SCHOOL GRAD FROM TYPE CODE	HSTYPE	A1
HOME LOCATION CODE	CHOMELOC	A3
HOME LOCATION NAME	HOMELOC	A28

CSS500B REPORT
DATE 02/26/90
TIME 09.47.46

UNIVERSITY OF CALIFORNIA - STUDENT LONGITUDINAL SYSTEM
PERSISTENCE AND GRADUATION RATES FOR DOMESTIC UNDERGRADUATES
ENTERING FALL 1982 AS OF FALL 1988
EXCLUDES SPECIAL, LIMITED, HIGH SCHOOL HONORS PROGRAM

ADMIT TYPE REGULAR
ADMIT LEVEL ENTERING FRESHMAN

SUMMARY - TABLE

STATUS AS OF START OF	CONTINUING ACAD DIFF		CONTINUING GOOD STG		TOTAL CONTINUING*		LEFT IN ACAD DIFF		LEFT IN GOOD STG		TOTAL LEFT*		DEGREE GRANTED	
5 ENTERING FALL 82														
FROM SUBGROUP BERKELEY		AMERICAN INDIAN												
FALL 83	0	.00	4	80.00	4	80.00	0	.00	1	20.00	1	20.00	0	.00
FALL 84	1	20.00	3	60.00	4	80.00	0	.00	1	20.00	1	20.00	0	.00
FALL 85	0	.00	3	60.00	3	60.00	0	.00	1	20.00	2	40.00	0	.00
FALL 86	0	.00	1	20.00	1	20.00	0	.00	2	40.00	3	60.00	1	20.00
FALL 87	0	.00	0	.00	0	.00	0	.00	2	40.00	3	60.00	2	40.00
FALL 88	0	.00	0	.00	0	.00	0	.00	1	20.00	2	40.00	3	60.00
709 ENTERING FALL 82														
FROM SUBGROUP BERKELEY		ASIAN												
FALL 83	13	1.83	654	92.24	668	94.22	16	2.26	19	2.68	41	5.78	0	.00
FALL 84	8	1.13	618	86.74	623	87.87	22	3.10	55	7.76	86	12.13	0	.00
FALL 85	4	.56	547	77.15	552	77.86	23	3.24	113	15.94	147	20.73	10	1.41
FALL 86	4	.56	273	38.50	278	39.21	21	2.96	132	18.62	169	23.84	262	36.95
FALL 87	0	.00	40	5.64	40	5.64	23	3.24	108	15.23	147	20.73	522	73.62
FALL 88	0	.00	10	1.41	10	1.41	23	3.24	107	15.09	144	20.31	555	78.28
94 ENTERING FALL 82														
FROM SUBGROUP BERKELEY		BLACK												
FALL 83	11	11.70	67	71.28	78	82.98	11	11.70	2	2.13	16	17.02	0	.00
FALL 84	4	4.26	54	57.45	58	61.70	19	20.21	18	13.83	36	38.30	0	.00
FALL 85	3	3.19	49	52.13	52	55.32	19	20.21	16	17.02	42	44.68	0	.00
FALL 86	2	2.13	35	37.23	37	39.36	19	20.21	20	21.28	46	48.94	11	11.70
FALL 87	0	.00	4	4.26	4	4.26	21	22.34	18	19.15	46	48.94	44	46.81
FALL 88	0	.00	2	2.13	2	2.13	21	22.34	18	19.15	46	48.94	46	48.94
91 ENTERING FALL 82														
FROM SUBGROUP BERKELEY		CHICANO												
FALL 83	8	8.79	70	76.92	79	86.81	3	3.30	7	7.69	12	13.19	0	.00
FALL 84	3	3.30	65	71.43	68	74.73	5	5.49	11	12.09	23	25.27	0	.00
FALL 85	3	3.30	59	64.84	62	68.13	7	7.69	15	16.48	29	31.87	0	.00
FALL 86	1	1.10	40	43.96	41	45.05	7	7.69	19	20.88	33	36.26	17	18.68
FALL 87	0	.00	9	9.89	9	9.89	7	7.69	21	23.08	35	38.46	47	51.65
FALL 88	0	.00	0	.00	0	.00	7	7.69	22	24.18	36	39.56	55	60.44
59 ENTERING FALL 82														
FROM SUBGROUP BERKELEY		LATINO												
FALL 83	1	1.69	50	84.75	52	88.14	1	1.69	5	8.47	7	11.86	0	.00
FALL 84	2	3.39	41	69.49	43	72.88	2	3.39	13	22.03	16	27.12	0	.00
FALL 85	0	.00	42	71.19	42	71.19	2	3.39	13	22.03	17	28.81	0	.00

*SINCE SANTA CRUZ USES NARRATIVE TRANSCRIPTS AND NO GRADE POINT AVERAGES ARE AVAILABLE, RECORDS COULD NOT BE DETERMINED TO BE IN GOOD STANDING OR IN ACADEMIC DIFFICULTY. UCSC CASES, AS WELL AS CASES ON OTHER CAMPUSES WITH MISSING GPA'S, ARE INCLUDED IN THE TOTAL COLUMNS IN ORDER TO HAVE A FULL ACCOUNTING.

ADDENDUM B

ERIC CLEARINGHOUSE FOR
JUNIOR COLLEGES
SEP 20 1991